

Notice of Allowability

Application No.

10/027,817

Examiner

Ronald D Hartman Jr.

Applicant(s)

BERENJI ET AL.

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 11/26/2004.
2. ☒ The allowed claim(s) is/are 5-7,13-15 and 18-20 (renumbered as 1-9).
3. ☒ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. Claims 5-7, 13-15 and 18-20 are presented for further examination.

Allowable Subject Matter

2. Claims 5-7, 13-15 and 18-20 are allowed.

As per claims 5-7, specifically independent claim 5, the prior art of record fails to teach or adequately suggest a method for power control of a wireless transmitter using actor-critic based fuzzy reinforcement learning, in combination with the other claimed features and or limitations as claimed by the claimed.

As per claims 13-26, specifically independent claim 13, the prior art of record fails to teach or adequately suggest a computer medium containing instructions, that when executed, perform a method for applying actor-critic based fuzzy reinforcement learning to control power for a wireless transmitter, in combination with the other claimed features and or limitations as claimed.

As per claims 18-20, specifically independent claim 18, the prior art of record fails to teach or adequately suggest a system for actor-critic learning and updating fuzzy rules wherein the updating of the fuzzy rules comprises taking a derivative, with respect to at least one parameter of the system, of the logarithm of a probability function, in combination with the other claimed features and or limitations as claimed.

The closest available art appears to have been issued to Baird, III, U.S. Patent No. 5,608,843 which discloses the use of actor-critic reinforcement learning. However, Baird does not teach, or render obvious, any of the novel aforementioned features with respect to claims 5-7, 13-15 and 18-20 since Baird only concerns himself with taking a time derivative, but not disclose taking a derivative of the logarithm of a probability function. Furthermore, Baird, III, does not teach or render obvious the use of the actor-

critic reinforcement learning procedure for use in power control of a wireless transmitter, and for at least these reasons, pending claims 5-7, 13-15 and 18-20 are believed to be allowable over the prior art of record.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald D Hartman Jr. whose telephone number is (571) 272 - 3684. The examiner can normally be reached on Mon. - Fri., 10:30 am - 7:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached at (571) 272 - 3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ronald D Hartman Jr.
Patent Examiner
Art Unit 2121


Anthony Knight
Supervisory Patent Examiner
Group 3600